

# LabWindows™/CVI™ Release Notes

## Version 8.1.1

These release notes introduce LabWindows™/CVI™ 8.1.1. Refer to this document for system requirements, installation and activation instructions, and information about new features in LabWindows/CVI.

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# Minimum System Requirements

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To run LabWindows/CVI, you must have the following items:

- Personal computer using a Pentium 1 GHz or higher microprocessor
- Microsoft Windows Vista, Windows XP, or Windows 2000 Service Pack 3 or later
- 1024 × 768 resolution (or higher) video adapter
- Minimum of 128 MB of RAM, 256 MB recommended
- 200 MB free hard disk space for full installation
- Microsoft-compatible mouse

## Installation Instructions

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Complete the following steps to install LabWindows/CVI:



**Note** If you already have a different version of LabWindows/CVI installed on your computer, be sure to install version 8.1.1 in a different directory or uninstall the other version before installing LabWindows/CVI 8.1.1. If you have LabWindows/CVI 8.1 installed on your computer, you can install version 8.1.1 in the same directory. In this case, LabWindows/CVI 8.1.1 overwrites LabWindows/CVI 8.1.

1. Insert the LabWindows/CVI CD into the CD drive. If the CD does not run automatically, open Windows Explorer, right-click the CD drive icon, and select **AutoPlay**.
2. Select **Install LabWindows/CVI** on the National Instruments LabWindows/CVI screen.
3. LabWindows/CVI prompts you to enter your user information. Select one of the following options:
  - **Install this product using the following serial number**
  - **Install this product for evaluation**

If you choose to enter a serial number, enter the serial number found on your Certificate of Ownership card. LabWindows/CVI automatically uses this serial number when you run the NI Activation Wizard.

4. Continue to follow the instructions on the screen.

## Activation Instructions

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When the installation completes, you will be prompted to activate LabWindows/CVI. You can activate at this time, or you can activate when you launch LabWindows/CVI. If you want to activate at the end of the installation, click **Next** to launch the NI Activation Wizard. If you want to activate later, deselect the **Activate this version of LabWindows/CVI now** option. If you choose to activate later, you will see a dialog box requiring you to activate a

LabWindows/CVI license or run in evaluation mode when you first launch LabWindows/CVI. Click **Activate** in this dialog box to launch the NI Activation Wizard.

Complete the following steps to activate LabWindows/CVI:

1. Select the **Automatically activate through a secure Internet connection** option and click **Next**. Your computer must be connected to the Internet for this option to work. If you do not have Internet access on your computer, refer to the instructions following these steps.
2. The serial number should be automatically entered for you. If not, enter the serial number found on your Certificate of Ownership card and click **Next**.
3. Fill in the necessary information and click **Next**.
4. Check the option if you would like to receive a confirmation email of your activation and click **Next**.
5. After a brief moment, you should receive a message indicating whether LabWindows/CVI has been activated or not. Enter or verify your serial number. Click **Next**.
6. Continue to follow the instructions on the screen.
7. When you successfully activate LabWindows/CVI, click **Finish**. LabWindows/CVI will then display a window indicating when this license will expire.

If you do not have Internet access on the computer requiring activation, complete the following steps to activate LabWindows/CVI:

1. Select the **Use a web browser, email client, telephone, or fax machine to acquire an activation code** option to acquire an activation code. Click **Next**.
2. Select **Use a Web browser on this or another computer**. If you have multiple NI products installed on your computer, you may need to select the version of LabWindows/CVI you want to activate. Click **Next**.
3. Keep the default serial number, click **Next**, and click **Save this information** to save the serial number, computer ID, product, and version number in a text file.
4. Go to the NI License Activation Web page on [ni.com/activate](http://ni.com/activate).
5. Select LabWindows/CVI as the **Product to Activate** and 8.1 as the **Product Version**. Fill out the form with the information required and click **Continue**. This step generates the activation code for you.
6. Go back to the LabWindows/CVI activation dialog box and enter that activation code to activate LabWindows/CVI.
7. If you are unable to activate LabWindows/CVI, refer to the NI License Activation Web page on [ni.com/activate](http://ni.com/activate).

# What's New in LabWindows/CVI?

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This section includes information about changes and enhancements in LabWindows/CVI 8.1.



**Note** Real-Time features require the LabWindows/CVI 8.1 Real-Time Module.

## Network Variable Library

LabWindows/CVI 8.1 includes a new library, the Network Variable Library, to share data between applications running on the same or different computers. The Network Variable Library uses the NI Publish-Subscribe Protocol (NI-PSP).

With the Network Variable Library, you can communicate with LabVIEW shared variables and with Measurement Studio network variables. You also can use this library in your Real-Time (RT) applications.



**Note** This library supersedes the DataSocket Library and provides better performance and scalability.

For more information about the Network Variable Library, refer to the *Library Reference» Network Variable Library* section in the *LabWindows/CVI Help*.

## TDM Streaming Library

LabWindows/CVI 8.1 includes a new library, the TDM Streaming Library, to log large amounts of data quickly. This library uses the TDM Streaming file format. You can then use DIAdem to analyze the data you logged with the TDM Streaming Library.

For more information about the TDM Streaming Library, refer to the *Library Reference» TDM Streaming Library* section of the *LabWindows/CVI Help*.

## Enhancements to DIAdem Library

The DIAdem Library has been enhanced to provide support for custom properties, support for the new TDM Streaming file format, support for enumerating properties, checking for the existence of specific properties, and checking property types.

For more information about the DIAdem Library, refer to the *Library Reference» DIAdem Connectivity Library* section of the *LabWindows/CVI Help*.

## Updated User Interface Control Appearance

User interface controls are updated to display based on the **Theme** setting in the Windows Display Properties dialog box. Updated user interface controls appear on Windows XP and later.

You can enable and disable the Theme-based appearance with the `ATTR_CONFORM_TO_SYSTEM_THEME` and `ATTR_DISABLE_PANEL_THEME` panel attributes.

For more information about Theme-based appearance for controls, refer to the *Using LabWindows/CVI»Developing a Graphical User Interface»Setting User Interface Editor Preferences* topic in the *LabWindows/CVI Help*.

## RS-232 Library in Real-Time Applications

Use RS-232 Library functions to develop new RT applications that use serial communication. You also can port existing applications that use the RS-232 Library to an RT system.

For more information about RS-232 and RT applications, refer to the *Library Reference»RS-232 Library* section and the *Programmer Reference»Creating and Downloading DLLs to Real-Time Targets* section of the *LabWindows/CVI Help*.

## Asynchronous Timers in Real-Time Applications

Use the asynchronous timers instrument driver (`asynctmr.fp`) in your RT applications. You also can port existing applications that use asynchronous timers to an RT system. Asynchronous timers help you program recurring tasks.

For more information about asynchronous timers, refer to the *Tools Library»Asynchronous Timers* section of the *LabWindows/CVI Help*.

## New User Interface Events

LabWindows/CVI 8.1 includes new events that give you more control over the user interface. The following table lists the new events:

```
EVENT_MOUSE_POINTER_MOVE
EVENT_LEFT_CLICK_UP
EVENT_RIGHT_CLICK_UP
EVENT_MOUSE_WHEEL_SCROLL
EVENT_PANEL_SIZING
EVENT_PANEL_MOVING
EVENT_RADIX_CHANGE
EVENT_ZOOM
EVENT_TABLE_ROW_COL_LABEL_CLICK
EVENT_INTERACTIVE_LEGEND
```

For more information about the new and updated events, refer to the *Library Reference»User Interface Library»Events* section of the *LabWindows/CVI Help*.

## HTML Files from Function Panels

Generate HTML help files from function panel help. The **Options»Generate Documentation** feature creates one HTML file per function panel, an overview file, and alphabetical and hierarchical lists of the functions. You do not need to include HTML tags in your function panel help to generate HTML files.

For more information about generating HTML files, refer to the *Using LabWindows/CVI»Instrument Drivers»Building Instrument Drivers»Generating Documentation* topic of the *LabWindows/CVI Help*.

## ActiveX Server Interface Breakpoint Functions

LabWindows/CVI 8.1 includes new functions to programmatically control breakpoints as you debug your code through the LabWindows/CVI ActiveX server interface. Use the functions to create and configure breakpoints, line tags, and excluded lines.

For more information about the ActiveX server interface breakpoint functions, refer to the *Using LabWindows/CVI»Accessing the LabWindows/CVI ActiveX Server Interface* section of the *LabWindows/CVI Help*.

## Support for .NET Generics

The LabWindows/CVI .NET Library now supports generics, a new feature in .NET Framework 2.0. .NET generics are similar to C++ templates. You can use functions in the .NET Library to call generic classes, call generic methods, and call members of generic interfaces.

For more information about generics, refer to the *Library Reference» .NET Library* section of the *LabWindows/CVI Help*.

## Project and File Templates

You can create projects and files using templates. Select **File»New»Project from Template** to create a project containing the settings configured in the template you select. Select **File»New»File from Template** to create a file containing the settings configured in the template you select.

You also can create your own projects and files to use as templates.

For more information about templates, refer to the *Using LabWindows/CVI»Managing Projects»Creating Projects and Files from Templates* section in the *LabWindows/CVI Help*.

## .TIF Image Support

LabWindows/CVI supports .tif images. You can create a .tif file with the `SaveBitmapToTIFFfile` function.

For more information about .tif files, refer to the *Library Reference»User Interface Library»Overview»Common User Interface Objects»Using Bitmap Objects* topic in the *LabWindows/CVI Help*.

## New Advanced Analysis Library Functions

The Advanced Analysis Library has been updated to include the following functions:

Windows	BartHannWin BohmanWin ParzenWin WelchWin
Signal Generation	GaussModSine GaussMonopulse PeriodicSinc UnsymmetricTriangle
Transform	InvChirpZT
Filter	FIRFiltering FIRFiltering_CxInput IIRFiltering_CxInput SavitzkyGolayCoef SavitzkyGolayFiltering SavitzkyGolayFiltering_CxInput
Linear Algebra	CxKronProduct KronProduct
Time Series	CxDecimate
Curve Fitting	PolyFitWithWeight



**Note** The Advanced Analysis Library is available in the LabWindows/CVI Full Development System only.

For more information about the updated Advanced Analysis Library, refer to the *Library Reference»Advanced Analysis Library* section of the *LabWindows/CVI Help*.

## Edit Multiple Controls

You can select multiple user interface controls of the same type and edit them simultaneously. Select multiple controls and select **Edit»Controls** or double-click the controls to open the Edit Control dialog box.

For more information, refer to the *Using LabWindows/CVI»Developing a Graphical User Interface»Editing a User Interface»Editing Controls* topic in the *LabWindows/CVI Help*.

## Source Code Color Printing

When you print source files to a color printer, LabWindows/CVI prints the files using the default syntax colors.

For more information about source code color printing, refer to the *Using LabWindows/CVI»Writing Source Code»Printing Source Files* topic in the *LabWindows/CVI Help*.

## Edit Graph Axes Interactively

You can edit graph axis values at run time. Double-click the minimum or maximum axis label value to edit it. When you modify the value, the axis range changes based on the new value.

For more information about editing graph axes interactively, refer to the *Library Reference»User Interface Library»Controls»Control Types»Graph Control* section of the *LabWindows/CVI Help*.

## LabWindows/CVI Resources

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### How do I get started?

Read the *Getting Started with LabWindows/CVI* manual, which provides a tutorial for learning basic LabWindows/CVI program development techniques.

### Are there known issues or late-breaking information?

Refer to the *LabWindows/CVI Readme*, which you can access from **Start»Programs»National Instruments»LabWindows CVI 8.1»LabWindows CVI Readme**. The readme file contains information about known issues.

### Where can I find reference information?

The *LabWindows/CVI Help* contains complete reference information. The help file includes the following sections:

- *Using LabWindows/CVI* describes the LabWindows/CVI development environment and features.
- *Library Reference* provides information about functions you can call in LabWindows/CVI.
- *Programmer Reference* provides information to help you develop applications.
- *Tools Library* provides information about the LabWindows/CVI Toolslib controls.

Use the **Search** tab in the *LabWindows/CVI Help* to quickly locate specific information. For information about how to use the search functionality, refer to the *Using Help»Searching Help* topic in the *LabWindows/CVI Help*.

### **Where can I find examples?**

Find examples with the NI Example Finder, which you can access by selecting **Help»Find Examples**.

### **Is there a list of LabWindows/CVI documentation?**

The *Guide to LabWindows/CVI Documentation* topic provides links to LabWindows/CVI documentation, including manuals, application notes, and white papers. You can access the *Guide to LabWindows/CVI Documentation* topic through the *LabWindows/CVI Help*.

### **Where else can I go for LabWindows/CVI information?**

Visit the LabWindows/CVI Web site and NI Developer Zone at [ni.com](http://ni.com) for the most up-to-date information about LabWindows/CVI.

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